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UNITED STATES PATENT AND TRADEMARK OFFICE

**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Ex parte CHARLES E. MILLER and MICHAEL R. HANSEN

Appeal 2009-0589
Application 10/603,981
Technology Center 3700

Decided:¹ March 10, 2009

Before DEMETRA J. MILLS, LORA M. GREEN, and
FRANCISCO C. PRATS, *Administrative Patent Judges*.

GREEN, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ The two-month time period for filing an appeal or commencing a civil action, as recited in 37 C.F.R. § 1.304, begins to run from the decided date shown on this page of the decision. The time period does not run from the Mail Date (paper delivery) or Notification Date (electronic delivery).

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-25 and 27. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

The claims are directed to an absorbent structure. Claims 1 and 3 are representative of the claims on appeal, and read as follows:

1. An absorbent structure for use in an article for absorbing blood, the absorbent structure comprising:
fibers formed into a first web, the first web having a first surface and a second surface spaced from the first surface;
blood absorbing enhancing agent within the first web, the blood absorbent enhancing agent present in a first amount adjacent the first surface and present in a second amount adjacent the second surface, the first amount being unequal to the second amount.
3. The absorbent structure of Claim 1, wherein the blood absorbent enhancing agent is lactic acid.

The Examiner relies on the following evidence:

Terao	US 6,013,252	Jan. 11, 2000
Chen	US 6,261,679 B1	Jul. 17, 2001
Jones	US 2003/0236511 A1	Dec. 25, 2003
Klun	US 6,762,339 B1	Jul. 13, 2004

We affirm.

ISSUE

The Examiner contends that the claims on appeal are rendered obvious by the combination of Klun and Chen, and that certain of the

dependent claims, are rendered obvious by that combination as further combined with Terao or Jones.

Appellants contend Klun as combined with Chen does not teach or suggest antimicrobial enhancer materials present in a first amount adjacent a first surface of a web of fibers and a second amount adjacent a second surface of a web of fibers, where the first amount is unequal to the second amount.

Thus, the issue on Appeal is: Have Appellants demonstrated that the Examiner erred in combining Klun with Chen to arrive at the claimed invention?

FINDINGS OF FACT

FF1 The Examiner rejects claims 1-3, 6-9, 14, 15, 24, and 25 under 35 U.S.C. § 103(a) as being obvious over the combination of Klun and Chen (Ans. 3). As Appellants do not argue the claim separately, we focus our analysis on claim 1, and claims 2, 3, 6-9, 14, 15, 24, and 25 stand or fall with that claim. 37 C.F.R. § 41.37(c)(1)(vii).

FF2 The Examiner, citing Figure 1 of Klun, finds that Klun teaches an absorbent structure 10 having a first web 11 having a first surface 12 and a second surface 13 (*id.*).

FF3 The Examiner finds further that Klun teaches that the first web comprises fibers (*id.*, citing Klun, col. 7, ll. 62-66).

FF4 In addition, the Examiner finds that Klun teaches that a blood absorbent enhancing agent may be disposed within the first web by coating

the first surface (Ans. 3 (citing Klun, col. 26, l. 50-col. 27, l. 3)), and that the agent may be lactic acid (Ans. 4, citing Klun, col. 7, ll. 38-39).

FF5 Figure 1 of Klun is reproduced below.

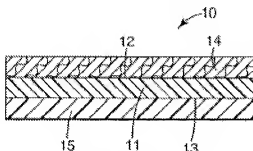


Fig. 1

Figure 1 is a cross-section of the absorbent device of Klun (Klun, col. 2, ll. 66-67).

FF6 The absorbent device **10** has an absorbent layer **11**, which has an upper surface **12** and a lower surface **13** (*id.* at col. 7, l. 62-col. 8, l. 20). Adhered to upper surface **12** is a liquid impermeable backing sheet **14** (*id.* at col. 8, ll. 20-22), and an optionally, a liquid-permeable sheet **15** is adhered to lower surface **13** (*id.* at col. 8, ll. 40-42).

FF7 An antimicrobial enhancer, such as lactic acid, may be added to the absorbent device of Klun (*id.* at col. 7, ll. 18-60). According to Klun:

A liquid composition comprising at least one antimicrobial enhancer material and optionally a liquid vehicle is applied by, e.g., dipping, spraying, printing, padding or by brush or sponge, to a portion of or the entire exterior surface of the shaped article, namely, fibers, woven and nonwoven fabrics or webs, and batts. The liquid vehicle is then removed, typically by drying, from the liquid composition to provide an essentially dry coating of the antimicrobial enhancer . . . on the surface of

the article. . . . [A] particularly preferred antimicrobial enhancer material is lactic acid.

(*Id.*)

FF8 The Examiner notes that Klun does not specifically teach that the blood enhancing (*i.e.* antimicrobial) agent is present “in a first amount adjacent the first surface and a second amount adjacent the second surface.”

(Ans. 3.)

FF9 The Examiner cites Chen for teaching the application of an antimicrobial agent to an absorbent structure, wherein the agent may be present in a gradient, which would result in a first amount adjacent the first surface and a second amount adjacent the second surface (Ans. 3 (citing Chen, col. 2, l. 43-col. 3, l. 17; col. 15, ll. 23-45)).

FF10 Specifically, Chen teaches

The absorbent fibrous structure can have gradients in material properties extending in the thickness direction or in directions in the plane of the absorbent fibrous structure. Gradients or variations in basis weight and thickness can readily be provided, but other material properties such as fiber composition, pore size, wettability, and the like can have gradients as well. For example, a planar absorbent fibrous structure suitable for use in an absorbent article may have large pores and large open cells near a top surface, with cells that become progressively smaller near the opposing back surface, optionally terminating in a skin on the back surface which can be partially or substantially liquid impervious. Such a structure with a porosity gradient may be suitable for liquid intake on the top surface but can prevent liquid leakage from the back surface. Articles may be provided with gradients in hydrophilicity as well, with more hydrophilic binder material and fibers in one region (e.g., a top surface) than elsewhere (e.g., a back surface). Gradients may extend in the plane,

giving, for example, an article with large cells or pores in a central target region but with more closed cells or smaller pores near the side edges of the absorbent fibrous structure to prevent lateral leakage of fluid.

(Chen, col. 15, ll. 23-45.)

FF11 The Examiner concludes that would have been “obvious to one of ordinary skill in the art at the time of invention to provide the antimicrobial agent in the absorbent structure of Klun in a gradient, as taught by Chen, to provide a greater antimicrobial activity to one surface.” (Ans. 3.)

FF12 The Examiner rejects claims 4, 5, 16, and 17 under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Klun and Chen, as further combined with Terao (*id.* at 4).

FF13 The Examiner further rejects claims 10-13, 18-23, and 27 under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Klun and Chen, as further combined with Jones (*id.* at 5).

PRINCIPLES OF LAW

The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) the level of ordinary skill in the art; (3) the differences between the claimed invention and the prior art; and (4) secondary considerations of nonobviousness, if any. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, ___, 127 S. Ct. 1727, 1739 (2007).

If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.

Id. at 1740. It is proper to “take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR*, 550 U.S. at ___, 127 S. Ct. at 1741. *See also id.* at ___, 127 S. Ct. at 1742 (“A person of ordinary skill is also a person of ordinary creativity, not an automaton.”). “In determining whether obviousness is established by combining the teachings of the prior art, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *In re GPAC Inc.*, 57 F.3d 1573, 1581 (Fed. Cir. 1995) (internal quotations omitted).

ANALYSIS

Appellants argue that “Klun does not teach or suggest antimicrobial enhancer materials present in a first amount adjacent a first surface of a web of fibers and a second amount adjacent a second surface of a web of fibers” (App. Br. 13); and that “Chen does not teach or suggest the addition of a blood absorbent enhancing agent to its absorbent fibrous structure, much less a gradient in a blood absorbent enhancing agent” (*id.* at 14). Appellants argue further that there is no motivation to combine Klun and Chen, as neither reference “contemplates the complexities of using blood absorbent

enhancing agents to effectively absorb fluids containing aqueous components as well as blood components,” and thus the Examiner has engaged in impermissible hindsight to arrive at the claimed invention (*id.* at 14-15).

Appellants argue further that Klun and Chen, as combined, fail to teach or suggest all the claim limitations (*id.* at 17). Appellants assert that, as admitted by the Examiner, “Klun fails to teach or suggest blood absorbent enhancing agent present in a first amount adjacent the first surface and a second amount adjacent the second surface” of the web (*id.* at 18). Chen, Appellants assert, does not remedy that deficiency, as Chen teaches a gradient in material properties, such as basis weight, thickness, fiber composition, pore size, wettability and hydrophobicity, and not to the amount of an additive, such as a blood absorbing agent (*i.e.*, antimicrobial agent), such as lactic acid (*id.*).

Appellants’ arguments are not convincing. Klun teaches an absorbent structure having an antimicrobial agent, such as lactic acid, and thus teaches all of the components of the structure of claim 1, as the lactic acid reads on the blood absorbent enhancing agent (*see, e.g.*, claim 3). The only limitation of claim 1 that Klun does not explicitly teach is that the blood absorbent enhancing agent present in a first amount adjacent the first surface and present in a second amount adjacent the second surface, the first amount being unequal to the second amount. Klun, however, teaches that a liquid composition containing the antimicrobial enhancer, *i.e.*, the lactic acid, may be applied by spraying or by brush or by sponge to a portion of the exterior surface (FF7). Thus, Klun teaches that the anti-microbial is not present in a

constant amount in the absorbent material. Chen then teaches that the use of absorbent materials having a gradient of properties across the thickness of the absorbent material (FF9 and FF10).

Accordingly, while Chen may specifically discuss material properties, when combined with the teaching of Klun that the antimicrobial enhancer may be applied by spraying or by brush or by sponge to a portion of the exterior surface, it would have been obvious to the ordinary artisan to apply the antimicrobial enhancer to one side of the absorbent structure of Klun to obtain an article having the antimicrobial (*i.e.*, the blood absorbing enhancing agent) present in a first amount at the side to which the antimicrobial was applied, and a second amount, wherein the second amount is different than the first amount, at the side on which the antimicrobial was not applied. We note further that the claim does not specify the difference between the first amount and the second amount, and thus encompasses any difference between the two amounts.

As to Appellants' argument that neither reference contemplates the complexities of using blood absorbent enhancing agents to effectively absorb fluids containing aqueous components as well as blood components, claim 1 is drawn to a product, and the reason to combine the references need not be the same as that of the inventors. *See, e.g., KSR*, 550 U.S. at ___, 127 S. Ct. at 1739 ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results."); *see also id.* at 1741-1742 ("In determining whether the subject matter of a patent claim is obvious, neither the particular motivation nor the avowed purpose of the patentee controls. What matters is the objective

reach of the claim. If the claim extends to what is obvious, it is invalid under § 103.”).

As to the rejection of claims 4, 5, 16, and 17 over the combination of Klun and Chen as further combined with Terao, as well as the rejection of claims 10-13, 18-23, and 27 over the combination of Klun and Chen as further combined with Jones, Appellants argue that neither Terao nor Jones remedy the deficiencies of the combination of Klun and Chen (App. Br. 18-19). Appellants’ arguments are not found to be convincing for the reasons set forth above with respect to the combination of Klun and Chen.

CONCLUSIONS OF LAW

We conclude that Appellants have not demonstrated that the Examiner erred in combining Klun with Chen to arrive at the claimed invention.

We thus affirm the rejection of claims 1-3, 6-9, 14, 15, 24, and 25 under 35 U.S.C. § 103(a) as being obvious over the combination of Klun and Chen; the rejection of claims 4, 5, 16, and 17 under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Klun and Chen, as further combined with Terao; and the rejection of claims 10-13, 18-23, and 27 under 35 U.S.C. § 103(a) as being rendered obvious by the combination of Klun and Chen, as further combined with Jones.

TIME LIMITS

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a).

AFFIRMED

cdc

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